

Abstract of the Disclosure

A high aspect ratio contact structure using a metal silicide adhesion layer that is interposed between titanium and titanium nitride (TiN) to promote adhesion of TiN to Ti. The metal silicide adhesion layer created from silicon doped CVD Ti can be deposited over the unreacted Ti after the silicidation reaction or deposited directly on the silicon substrate in place of CVD Ti. The contact structure further includes contact fill that is comprised of $TiCl_4$ based TiN, which affords improved step coverage in the contact structure.

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